AMENDMENTS TO THE CLAIMS

Claim 1. (Original) A targeted glycoconjugate comprising a bioactive agent and a targeting compound, wherein the bioactive agent and targeting compound are joined by a modified saccharide compound.

Claim 2. (Original) The glycoconjugate of claim 1 wherein the bioactive agent comprises a polypeptide; releasing factor; releasing factor inhibitor; carbohydrate; nucleic acid; vaccine; anti-antibiotic; antiviral agent ; anti-fungal agent; analgesics anesthetic; anti-helminthic; anti-arthritic agent; anti-asthmatic agent; anticonvulsant; antidepressant; anti-diabetic agent; anti-diarrheal; anticonvulsant; antihistamine; anti-inflammatory agent; toxin, anti- migraine preparation; anti-nauseant; anticancer agent; anti-parkinsonism drug; ; anti-psychotic; antipyretic; anti-spasmodic; anti- cholinergic; sympathomimetic; xanthine derivative; cardiovascular agent; anti-arrhythmic; anti-hyperlipidemic agent; anti-hypertensive; diuretic; anti-diuretic; receptor agonist; receptor antagonist; vasodilator; central nervous system stimulant; vasoconstrictor; cough and cold preparation; enzyme inhibitor; hormone; hypnotic; agent; muscle relaxant; parasympatholytic; central nervous system stimulant; diuretic; hypnoticsleukotriene inhibitor; mitotic inhibitor; muscle relaxant; genetic material; psychostimulant; sedative; anabolic agent; vitamin; herbal remedy; anti-metabolic agent ; anxiolytic; attention deficit disorder (ADD) drug; attention deficit hyperactivity disorder (ADHD) drug; neuroleptic agent; or tranquilizer.

Claim 3. (Original) The glycoconjugate of claim 1, wherein the targeting compound comprises a glycoprotein, glycolipid or carbohydrate.

Claim 4. (Original) The glycoconjugate of claim 1, wherein the targeting compound comprises GlcNAc.

Claim 5. (Original) The glycoconjugate of claim 1, wherein the targeting compound is a receptor ligand or an antibody.

Claim 6. (Original) The glycoconjugate of claim 5, wherein the antibody is a polyclonal antibody.

Claim 7. (Original) The glycoconjugate of claim 5, wherein the antibody is a monoclonal antibody.

Claim 8. (Original) The glycoconjugate of claim 1, wherein the modified saccharide compound comprises galactose, glucose (Glc), D-deoxy-Glc, arabinose, GalNAc or GlcNAc.

Claim 9. (Original) The glycoconjugate of claim 8, wherein the modified saccharide compound further comprises a reactive functional group.

Claim 10. (Original) The glycoconjugate of claim 9, wherein the reactive functional group comprises an amino, hydroxy, carboxyl, thiol, phosphate, phosphinate, ketone, sulfate or sulfinate group.

Claim 11. (Original) The glycoconjugate of claim 9, wherein the reactive functional group is attached to the C2 position of the saccharide ring.

Claim 12. (Original) The glycoconjugate of claim 1wherein the modified saccharide is galactose with a ketone moiety attached at the C2 position of the galactose ring.

Claim 13. (Original) A method for the treatment or detection of a disease or disorder comprising, administering to a subject in need thereof an effective amount of the glycoconjugate of claim 1.

Claim 14. (Original) A method of delivering one or more bioactive agents comprising administering to a subject the glycoconjugate of claim 1.

Claim 15. (Original) A method of vaccinating a subject against a disease comprising administering to the subject an immunologically effective amount of the glycoconjugate of claim 1.

Claim 16. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the bioactive agent comprises a polypeptide; releasing factor; releasing factor inhibitor; carbohydrate; nucleic acid; vaccine; anti-antibiotic; antiviral analgesics anesthetic; anti-helminthic; anti- arthritic agent; anti-asthmatic agent; anticonvulsant; antidepressant; anti- diabetic agent; anti-diarrheal; anticonvulsant; antihistamine; anti- inflammatory agent; toxin, anti-migraine preparation; anti-nauseant;

anticancer agent; anti-parkinsonism drug; anti-pruritic; anti-psychotic; antipyretic; anti-spasmodic; anti-cholinergic; sympathomimetic; xanthine derivative; cardiovascular agent; ; anti-hyperlipidemic agent; anti-hypertensive ; diuretic; anti-diuretic; receptor agonist; receptor antagonist; vasodilator; central nervous system stimulant; vasoconstrictor; cough and cold preparation; enzyme inhibitor; hormone ; hypnotic; immunosuppressive agent; muscle relaxant; parasympatholytic ; central nervous system stimulant; diuretic; hypnoticsleukotriene inhibitor; mitotic inhibitor; muscle relaxant ; genetic material; psychostimulant; sedative; anabolic agent; vitamin; herbal remedy; anti-metabolic agent; anxiolytic ; attention deficit disorder (ADD) drug; attention deficit hyperactivity disorder (ADHD) drug; neuroleptic agent; or tranquilizers.

Claim 17. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the targeting compound comprises a glycoprotein, glycolipid or carbohydrate.

Claim 18. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the targeting compound comprises GlcNAc.

Claim 19. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the targeting compound is a receptor ligand or an antibody.

Claim 20. (Original) The method of claim 19, wherein the antibody is a polyclonal antibody.

Claim 21. (Original) The method of claim 19, wherein the antibody is a monoclonal antibody.

Claim 22. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the modified saccharide compound comprises galactose, glucose (Glc), D-deoxy-Glc, arabinose, GalNAc or GlcNAc.

Claim 23. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the modified saccharide compound comprises a reactive functional group.

Claim 24. (Original) The method of claim 23, wherein the functional group comprises an amino, hydroxy, carboxyl, thiol, phosphate, phosphinate, ketone, sulfate or sulfinate group.

Claim 25. (Original) The method of claim 23, wherein the functional group is attached to the C2 position of the saccharide ring.

Claim 26. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the modified saccharide is galactose with a ketone moiety attached at the C2 position of the galactose ring.

Claim 27. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the disease or disorder comprises cancer; inflammatory disease or disorder; a hyperproliferative disorder; hormone deficiency disease; hormone abnormality due to hypersecretion; infectious disease; bacterial infection; viral infection; fungal infection ; parasitic infection; cardiovascular disease or disorders; genetic disease; autoimmune disease; allergic reaction or conditions; organ rejection or graft-versus-host disease; immune deficiency disease.

Claim 28. (Currently amended) The method of claim 13 ~~any one of claims 13,14 or 15~~, wherein the subject is a mammal.

Claim 29. (Original) The method of claim 28, wherein the mammal is a human.

Claim 30. (Original) A method to synthesize the glycoconjugate of claim 1 comprising: (a) incubating a reaction mixture comprising a 4) - galactosyltransferase I or a mutant thereof with a targeting compound and a donor molecule comprising a modified saccharide residue so as to form a targeting-modified saccharide compound; and (b) incubating the targeting-modified saccharide compound formed in (a) and a bioactive agent under conditions effective to generate a covalent bond between the modified saccharide and the bioactive agent.

Claim 31. (Original) A method to synthesize the glycoconjugate of claim 1 comprising: (a) incubating a reaction mixture of a donor molecule comprising a modified saccharide residue and a bioactive active agent under conditions effective to generate a covalent bond between the modified saccharide and the bioactive agent; and (b)

incubating a reaction mixture comprising a 4) - galactosyltransferase I or a mutant thereof with the modified saccharide- bioactive agent compound formed in (a) with a targeting compound so as to form the glyconjugate.

Claim 32. (Currently amended) The method of claim 30 ~~or 31~~ wherein the modified saccharide compound comprises galactose, glucose (Glc), or arabinose.

Claim 33. (Currently amended) The method of claim 30 ~~or 31~~ wherein the modified saccharide compound comprises a reactive functional group.

Claim 34. (Original) The method of claim 33, wherein the functional group comprises an amino, hydroxy, carboxyl, thiol, phosphate, phosphinate, ketone, sulfate or sulfinate group.

Claim 35. (Original) The method of claim 33, wherein the functional group is attached to the C2 position of the saccharide ring.

Claim 36. (Currently amended) The method of claim 30 ~~or 31~~ wherein the modified saccharide is a galactose residue with a ketone moiety attached at the C2 position of the galactose ring.

Claim 37. (Currently amended) The method of claim 30 ~~or 31~~ wherein the targeting compound comprises a glycoprotein, glycolipid or carbohydrate.

Claim 38. (Currently amended) The method of claim 30 ~~or 31~~ wherein the targeting compound comprises GlcNAc.

Claim 39. (Currently amended) The method of claim 30 ~~or 31~~ wherein the targeting compound is a receptor ligand or an antibody.

Claim 40. (Original) The method of claim 39, wherein the antibody is a polyclonal antibody.

Claim 41. (Original) The method of claim 39, wherein the antibody is a monoclonal antibody.

Claim 42. (Currently amended) The method of claim 30 ~~or 31~~, wherein the bioactive agent comprises a polypeptide; releasing factor; releasing factor inhibitor; carbohydrate; nucleic acid; vaccine; anti-antibiotic; antiviral agent; agent; analgesics anesthetic; anti-helminthic; anti-arthritic agent; anti-asthmatic agent; anticonvulsant;

antidepressant; anti-diabetic agent; anti-diarrheal; anticonvulsant; antihistamine; anti-inflammatory agent; toxin, anti- migraine preparation; anti-nauseant; anticancer agent; anti-parkinsonism drug ; anti-pruritic; anti-psychotic; antipyretic; anti-spasmodic; anti- ; sympathomimetic ; xanthine derivative; cardiovascular agent; anti-arrhythmic; agent; anti-hypertensive ; diuretic; anti-diuretic; receptor agonist; receptor antagonist; vasodilator; central nervous system stimulant; vasoconstrictor; cough and cold preparation; enzyme inhibitor; hormone ; hypnotic; hormonolytic; immunosuppressive agent; muscle relaxant; parasympatholytic; central nervous system stimulant; diuretic; hypnoticsleukotriene inhibitor; mitotic inhibitor; muscle relaxant; genetic material; psychostimulant; sedative; anabolic agent ; vitamin; herbal remedy; anti-metabolic agent; anxiolytic; attention deficit disorder (ADD) drug; attention deficit hyperactivity disorder (ADHD) drug; neuroleptic agent; or tranquilizers.

Claim 43. (Original) A pharmaceutical composition comprising the glycoconjugate of claim 1 and a pharmaceutically acceptable carrier.

Claim 44. (Currently amended) A kit comprising the glycoconjugate of claim 1 ~~or the pharmaceutical composition of claim 43~~ and instructions for use in a therapeutic or diagnostic method.

Claim 45. (Original) A glycoconjugate according to claim 1 for use in medical therapy.

Claims 46-48. (Cancelled)